

Introduction to Attitudes and Persuasion

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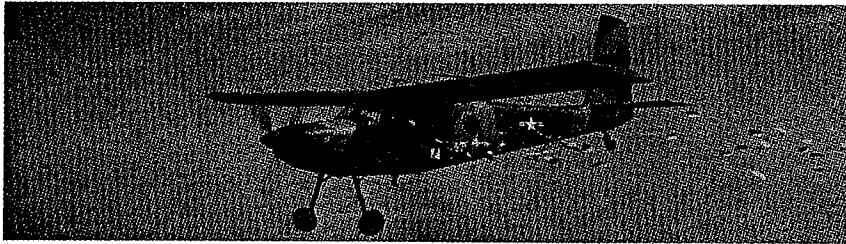
The process of persuasion is such an ever-present aspect of our daily lives that we often fail to even notice its occurrence. From the moment you are awakened in the morning by the friendly voices on the clockradio (who are likely telling you how to smell good, get rid of your dandruff, have whiter teeth) until you go to bed at night, you may have been exposed to over a hundred influence attempts. As you eat your breakfast (while reading the back of the cereal box or glancing at a newspaper ad for a presidential candidate), walk or ride the bus to school or work (and see various billboards along the way), go shopping (where the sales clerk tells you how wonderful the sweater looks that you are trying on), talk to a friend (who tells you how good a new record album is), or go to a movie (where there will be previews of future movies), somebody is attempting to get you to change your mind about something. Even Sunday is not a day of rest from persuasion: on this day, thousands of ministers deliver persuasive messages in an attempt to inculcate certain values.

Of course, it is not only individuals who try to persuade each other—the dissemination of propaganda is often part of corporate or government policy. For example, *Time* magazine (10 July 1978, p. 68) reports that in one typical month in 1969 at the height of the American involvement in the Vietnam war, the United States dropped 713 million propaganda leaflets over that country. Although most American citizens were aware of the war being fought with bombs and bullets, few were aware of the extensive war of persuasion being conducted as well. Persuasion attempts have always been an integral part of psychological warfare. Box 1.1 presents an example of a propaganda leaflet employed by Nazi Germany in an attempt to destroy the morale of U.S. troops during World War II.

The goal of *propaganda* is to change other people's views in order to further one's own cause or damage an opposing one. Propaganda is sometimes viewed as a biased form of *education* (Zimbardo, Ebbesen, & Maslach, 1977). The goal of education is to teach a person certain factual information (e.g., Washington, D.C., is the capital of the United States) and to teach a person how to think logically so that the person will be capable of making up his or her own mind. The goal of propaganda is to teach nonfactual information or to make opinion appear as fact (e.g., Washington, D.C., is the loveliest capital city in the world).

Box 1.1

Psychological Warfare

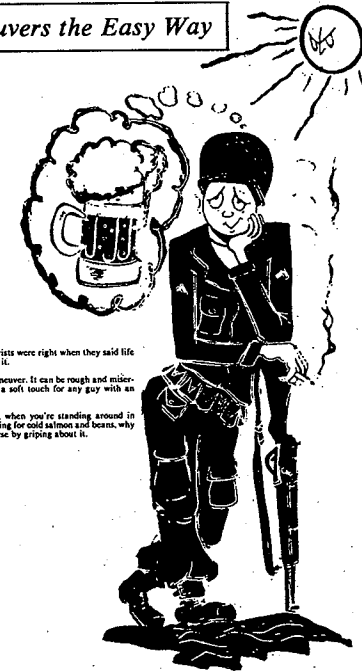


U.S. plane dropping propaganda leaflets, mostly safe-conduct passes for potential Viet Cong defectors, January 1966 (photograph by Don North)

The propaganda leaflet has been a staple of modern warfare. The Nazi leaflet on the right attempts to reduce the morale of the American troops by getting them to think about the good old days at home. Presumably, the more the soldiers think about the good old days and how wonderful they were, the less satisfied they will be with their present situation. This is called a *contrast effect* (discussed in chapter 4). Notice, however, that the leaflet is designed to appear as a morale booster! This presumably disguises its persuasive intent and makes it less likely to be ignored or thrown away. The manner in which persuasive intent modifies the effectiveness of propaganda is discussed further in chapters 3 and 5.

A communication presenting propaganda is designed so that one conclusion appears more reasonable than another, and thus it may sometimes involve withholding material favorable to the opposing side. Viewed in this way, much of what we call persuasion—advertising copy, presidential campaign speeches, the defense attorney's appeal to a jury, parents' lectures on acceptable morality—comes closer to qualifying as propaganda than education. In this text, however, we use the term *persuasion* to refer to any instance in which an active attempt is made to change a person's mind because the word is relatively neutral and because one person's propaganda may be another person's education.

Maneuvers the Easy Way



The psychiatrists were right when they said life is what you make it.

Take this maneuver. It can be rough and miserable, or it can be a soft touch for any guy with an imagination.

For example, when you're standing around in the chow line waiting for cold salmon and beans, why make matters worse by griping about it.

GIVE YOURSELF A BREAK AND
THINK ABOUT THE GOOD OLD DAYS

*From Zimbardo, Ebbesen, & Maslach (1977). Copyright by Addison-Wesley Publishing Co., Inc. Reprinted with permission.

Our discussion of persuasion focuses on various approaches that have developed in experimental social psychology. Social psychologists have conducted thousands of experiments on the topic, and the body of accumulated knowledge is now quite large. Interest in developing some general principles of persuasion is certainly not new, of course. For example, in the fourth century B.C., Aristotle identified three kinds of persuasion:

Of the modes of persuasion furnished by the spoken word there are three kinds. The first kind depends on the personal character of the *speaker*; the second on putting the *audience* into a certain frame of mind; the third on the

proof, or apparent proof, provided by the *words* of the speech itself. Persuasion is achieved by the speaker's personal character when the speech is so spoken as to make us think him credible. . . . Secondly, persuasion may come through the hearers when a speech stirs their emotions. . . . Thirdly, persuasion is effected through the speech itself when we have proved a truth or an apparent truth by means of the persuasive arguments suitable to the case in question. [*Rhetoric*, 1941 edition, pp. 1329–1330; italics added.]

So some 2,400 years ago three aspects of the persuasion situation—the source, the audience, and the message content—were clearly identified. Surprisingly perhaps, it was not until quite recently (only forty years ago) that these features of the persuasion setting were given any systematic research attention. To some extent, the modern experimental study of persuasion began with Carl Hovland, a Yale psychologist who took a leave of absence during World War II to become chief psychologist and director of experimental studies for the War Department. During the war, Hovland and his colleagues investigated the social-psychological variables responsible for military morale and, in the process, completed a number of studies that documented the importance of different factors in persuading people (Hovland, Lumsdaine, & Sheffield, 1949). Hovland continued this research on communication and persuasion when he returned to Yale after the war. This research program produced a number of highly influential volumes (e.g., Hovland, Janis, & Kelley, 1953; Hovland et al., 1957). Hovland was a student of a prominent learning theorist, Clark Hull, and so it is not surprising that Hovland emphasized the role of learning processes in persuasion. We will discuss the Hovland approach in depth in chapter 3, but before beginning our discussion of this and other approaches to persuasion, some important background questions should be addressed. We will take up the following questions in turn:

1. What is an attitude?
2. Why do people have attitudes?
3. How are attitudes measured?
4. Do attitudes predict behaviors?
5. How is attitude change studied experimentally?

What Is an Attitude?

We have already noted that persuasion represents an attempt to change a person's mind. But what specifically is it that a persuasion attempt seeks to influence? Researchers in the field have usually distinguished among the following possibilities: attitudes, beliefs, and behaviors.

There is now widespread agreement among social psychologists that the term *attitude* should be used to refer to a general and enduring positive or negative feeling about some person, object, or issue (Bem, 1970; Insko & Schopler, 1972; Oskamp, 1977). "I like Chevrolets," "I hate Chuck," and "Capital punishment is horrible!" would all be considered attitudes because they express a general positive or negative feeling toward something. "Chevrolets are economical," "Chuck is prejudiced," and "Capital punishment is legal in my home state," are all examples of beliefs. The term *belief* is reserved for the information that a person has about other people, objects, and issues. The information may be factual or it may be only one person's opinion. Furthermore, the information may have positive, negative, or no evaluative implications for the target of the information. The following represent the *behavioral* or overt action category: purchasing a Chevrolet, throwing a pie in Chuck's face, and campaigning against capital punishment. Behaviors may also have positive, negative, or no evaluative implications for the target of the behavior.¹

Gordon Allport called *attitude* "the most distinctive and indispensable concept in contemporary social psychology" in his chapter in the original *Handbook of Social Psychology* (1935); and since then, the study of *attitude change* has been the primary focus of persuasion researchers. "Attitude" became the preeminent concept because of the important psychological functions that attitudes were thought to serve and because of the presumed ability of attitudes to direct (and thus allow prediction of) behaviors. Beliefs were thought to be related to behaviors only because they contributed to the formation of attitudes. Thus, an advertiser might want to convince you that a certain kind of car got good gas mileage (belief change), so that your liking for the car would increase (attitude change) and that you would become more likely to buy the car the next time you needed one (behavior change). Our discussion of the various approaches to persuasion in this text focuses on attitude change; but because of the interrelationships among beliefs, attitudes, and behaviors hypothesized by some theorists, our discussion also necessarily deals with belief change and behavior change when appropriate. Furthermore, the principles that are involved in persuading someone to change an attitude are the same as those that are involved in persuading someone to change a belief or a behavior.

Why Do People Have Attitudes?

As you and a friend walk out of a movie that you have just seen, one of the first things that one of you asks the other is "What did you think of it?" When you are introduced to your brother's new girlfriend, he asks you after the meeting "How does she seem to you?" In response to these questions, you are not initially likely to give your beliefs about the movie (e.g., "the direction was weak"), or about the girl (e.g., "she has blonde hair"). The response that you assume the

other person wants, and the response that you are most likely to give, is a general attitude: I liked it (or her). Only further probing is likely to elicit your more specific thoughts. Your attitude serves as a convenient summary of a wide variety of beliefs about the movie or the girl. People are usually eager to hear our attitudes, and we are often eager to give them. Why are attitudes such an important part of social interaction?

In addition to the fact that attitudes serve as convenient summaries of our beliefs, they are important to other people for another reason—they help others to know what to expect from us. Knowing our attitudes presumably helps others predict the kinds of behaviors we are likely to engage in more accurately than almost anything else we can tell them. If you tell a person that “movies are rated G, PG, R, and X,” and that “American movies usually emphasize entertainment rather than a message,” that person wouldn’t know whether or not to invite you to a movie. However, if you say to this person, “Movies today are sleazy, disgusting, and make me want to vomit,” all doubt and uncertainty would be removed! Knowledge of others’ attitudes, then, makes the world seem like a more predictable place. Of course, if a person’s attitude was neutral (neither positive nor negative), it would not be as informative as if it was very polarized (extreme).

Attitudes may also express some important aspects of an individual’s personality (Smith, Bruner, & White, 1956). For example, Katz (1960) has described four functions that attitudes might serve for a person. According to Katz, some attitudes serve an *ego-defensive function*. These are attitudes that are held because they help people protect themselves from unflattering truths about themselves or about others who are important to them. By despising homosexuals, for example, some men are able to enhance their own feelings of masculinity and self-worth. This negative attitude about homosexuals serves an ego-defensive function. Attitudes may also serve a *value-expressive function*, which occurs when holding a certain attitude allows the person to express an important value. For example, the person who likes solar hot water heaters because their use demonstrates an important concern about energy conservation has an attitude that serves a value-expressive function. A third purpose served by attitudes is a *knowledge function*. Such attitudes allow people to better understand events and people around them. If your dislike of former President Richard Nixon helps you to understand his participation in the Watergate coverup (dislikable people do dislikable things), the attitude serves a knowledge function. Finally, attitudes may serve a *utilitarian function*. These attitudes help people to gain rewards and avoid punishments. When an employee adopts the attitudes of the boss prior to asking for an increase in salary, it is clear that the new attitudes are serving a utilitarian function. According to Katz’s functional view of attitudes, different people may hold the same attitudes, but the attitudes may serve very different purposes for them. Thus, Mr. Smith may like the Republican candidate for president because he perceives that he stands for morality in America (value-expressive function), whereas Mr. Jones likes the Republican candidate because he perceives that the candidate’s election would be good for his business (utilitarian function).

How Are Attitudes Measured?

Now that it is clear that attitudes can serve a number of useful functions, it is important to know how psychologists measure a person’s attitudes. Without techniques for measuring attitudes, research on the determinants of attitude change would be impossible. The procedures for measuring attitudes can generally be divided into two major categories—direct and indirect. With *direct* procedures, a person is asked to provide a self-report of his or her attitude. With *indirect* procedures, an attempt is made to measure a person’s attitude without the person knowing it. In some cases, the person may think that something other than an attitude is being measured, and in other cases the measurement may be completely unobtrusive.

Direct Procedures

Thurstone Scale

One of the earliest direct procedures was developed by Louis Thurstone, who in 1928 published a paper boldly titled “Attitudes Can Be Measured.” Thurstone had been working on scaling human perceptions of such sensory stimuli as light and sound, and he reasoned that similar techniques might be employed to develop scales for more emotionally involving stimuli. Just as people can rank-order noises in terms of their loudness, Thurstone realized that people could also rank opinion statements in terms of their favorableness toward some object or issue. If a scale of opinion statements relative to an issue could be constructed, then an indication of people’s attitudes could be obtained by finding out what statements they personally favored.

Construction of a Thurstone scale begins with obtaining a list of about one hundred opinion statements relevant to some issue. These may be self-generated by the investigator or taken from newspapers, books, and magazines. The statements should represent the full range of favorableness toward the issue about which attitudes are being measured. Any statements that are confusing or open to multiple interpretations should be eliminated. The investigator then asks about one hundred people to serve as judges to rank-order the statements in terms of how favorable they are to the issue. Specifically, the judges are asked to sort the statements into eleven categories, where category one indicates that the statement is as opposed to the issue as it could possibly be and eleven indicates that the statement is as favorable toward the issue as it could possibly be. The judges would try to categorize the statements on an *equal interval basis* so that the difference in favorableness between any two positions on the scale would be equal. After the judges rate each statement, the investigator assigns a “scale value” to each statement corresponding to the median (middle) category to which the judges have assigned it. Thus each statement is assigned a scale value such that

Box 1.2**Different Direct Scales for Assessing Attitudes toward the Church****1. Thurstone Scale (Adapted from Thurstone & Chave, 1929)**

Check the statements with which you agree:

- _____ 1. I enjoy the church because there is a spirit of friendliness there. (3.3)
- _____ 2. I respect any church members' beliefs, but I think it is all "bunk." (8.8)
- _____ 3. I think the organized church is an enemy of science and truth. (10.7)
- _____ 4. I believe in what the church teaches but with mental reservations. (4.5)
- _____ 5. I feel that church services give me inspiration and help me to live up to my best during the following week. (1.7)
- _____ 6. I feel the need for religion but do not find what I want in any one church. (6.1)

2. Likert Scale

For each statement, check the extent to which you agree.

1. I believe that the church is the greatest institution in America today.
- (+2) _____ strongly agree
- (+1) _____ moderately agree
- (0) _____ neutral
- (-1) _____ moderately disagree
- (-2) _____ strongly disagree

it is rated higher than this value by half the judges and lower than this value by the other half. In the final step in scale construction, the investigator selects from the one hundred statements about twenty that have a high degree of agreement among the judges on their appropriate category and that represent every position on the underlying one to eleven scale. An abbreviated Thurstone scale appears in box 1.2. When using the scale, the statements would appear in a random order without the accompanying scale values. To measure an attitude, the investigator asks each person to check all items with which he or she personally agrees. The attitude score is the median of the scale values of the statements that the person endorses.

2. The church represents shallowness, hypocrisy, and prejudice.

- (-2) _____ strongly agree
- (-1) _____ moderately agree
- (0) _____ neutral
- (+1) _____ moderately disagree
- (+2) _____ strongly disagree

3. Semantic Differential Scale

Rate how you feel about the church on each of the scales below.

good	_____	_____	_____	_____	_____	bad
	(+2)	(+1)	0	(-1)	(-2)	
unfavorable	_____	_____	_____	_____	_____	favorable
	(-2)	(-1)	0	(+1)	(+2)	
pleasant	_____	_____	_____	_____	_____	unpleasant
	(+2)	(+1)	0	(-1)	(-2)	
negative	_____	_____	_____	_____	_____	positive
	(-2)	(-1)	0	(+1)	(+2)	

4. One-item Rating Scale

How much do you like the church?

not at all	_____	_____	_____	_____	_____	_____	_____	very much
	1	2	3	4	5	6	7	

Likert Scale

Although the Thurstone scale is rather difficult to construct, it does allow a fairly precise estimate of where a person stands on the underlying attitudinal dimension. In many instances, however, this precision is not necessary. Often it is sufficient merely to know how people can be ranked relative to each other (without the equal interval assumption). In 1932, Rensis Likert published a paper, with the relatively restrained title, "A Technique for the Measurement of Attitudes," that described such a scale. The first step in constructing a Likert scale is similar to the Thurstone procedure—a large number of opinion statements relevant to the attitude issue are collected. Each statement should clearly express either a positive or negative feeling about the issue under consideration.

In the next step, a large sample of people express the extent of their own agreement with each of the statements on a five-point scale (see box 1.2). Since the scale assumes that each of the items measures the same underlying attitude, any items that do not correlate highly with the total test score (obtained by summing the responses to the individual items) are eliminated from the scale. Thus, the person's attitude score is obtained by summing the responses to the items that remain. Unlike the Thurstone procedure, scale construction and administration can be accomplished with the same set of people. Because the Likert scale is easier to construct than the Thurstone scale, and because both scales have equivalent reliabilities (McNemar, 1946; Poppleton & Pilkington, 1964) and typically correlate highly with each other (Edwards & Kenney, 1946), the Likert procedure is more popular.² One unwieldy aspect of both the Thurstone and the Likert procedures, however, is that a different scale (with new items) must be constructed each time an attitude toward another issue is to be measured.

The Semantic Differential

In an attempt to understand the dimensions of meaning of words, Osgood, Suci, and Tannenbaum (1957) developed a convenient way to assess attitudes toward a wide variety of people, objects, and issues. These researchers discovered that three factors accounted for most of the meaning that we assign to different words: *evaluation* (how good or bad, valuable or worthless something is), *potency* (how strong or weak, heavy or light something is), and *activity* (how fast or slow, excitable or calm something is). The first factor corresponds to what we consider an attitude. Osgood (1965; Osgood et al., 1957) suggested that attitudes could be measured by having subjects rate the attitude object on bipolar adjective pairs that represented the evaluative dimension of meaning. An example of how such a scale might look is presented in box 1.2. The person's attitude score would be the sum of the numbers corresponding to the positions checked on the four subscales. The semantic differential technique is comparable in *reliability* to the Thurstone and Likert procedures (Robinson & Shaver, 1969).

The One-item Rating Scale

One way to assess attitudes that is popular in much attitude research but is not as reliable as the Thurstone, Likert, and semantic differential scales is the one-item rating scale. For this procedure, the investigator selects *one* question that he or she feels would most directly assess a particular attitude of interest. For many research and survey purposes, this very simple procedure is sufficient.³ An example of this type of scale is presented in box 1.2.

The Validity of Direct Measurement Procedures

All of the scales that we have just discussed make the assumption that people are perfectly willing and able to tell you about their attitudes. Sometimes this assumption is unwarranted. For example, at different points in history people have been afraid to respond to attitude surveys for political reasons. A more common problem is that people may be so concerned about making a good impression on the investigator that only desirable attitudes are reported correctly, and attitudes that may be socially undesirable are concealed or misrepresented. These and other problems that may lead to attitude misrepresentation (Cook & Selltiz, 1964) have caused psychologists to search for a way to ensure that the self-report attitude scales really reflect a person's true feelings (see box 1.3).

One interesting procedure for assessing a person's true feelings is called the *bogus pipeline* (Jones and Sigall, 1971), in which the investigator convinces the subject that the sophisticated equipment being used allows a determination of the subject's true attitudes. For example, the subject might be asked to hold onto a steering wheel connected to a pointer; turning the wheel allows the pointer to move in either a positive or negative direction on some attitude scale. The subject is told that electrodes will be attached to his or her wrist so that electromyographic (EMG) recordings can be made. The EMG, which measures minute muscle movements, presumably provides a measurement of the subject's initial tendency to move the wheel in either a positive or negative direction. The intensity of the EMG response allows a determination of how far the wheel would be turned. A few "practice" trials are then conducted in which the investigator asks the subject to respond to some innocuous questions (for which the subject's true responses are already known), and the EMG is shown to "predict" the subject's true answers. Once the subject is convinced that the EMG can read minds, the experimenter can ask the real questions of interest. The subject is told to give the responses, and the experimenter will check to see how well the subject knows his or her own true feelings by comparing the verbal responses to the true responses given by the EMG. The logic of the bogus pipeline procedure is that a subject prefers to tell the experimenter his or her true feelings rather than be proven a liar by the EMG.

Several pieces of evidence suggest that the bogus pipeline procedure produces more truthful statements on the part of subjects. For example, in one study (Quigley-Fernandez & Tedeschi, 1978) subjects were first wrongly informed about how to perform well on an experimental test. They were then given a chance to "cheat" on the test and were later asked if they possessed any prior information about the test. Subjects questioned under the bogus pipeline condition "confessed" more often than those who were not. In a study more directly related to attitudes (Sigall & Page, 1971), white subjects attributed more negative characteristics to blacks with the bogus pipeline procedure than with the regular self-report rating scales. These studies indicate that the bogus pipeline procedure may be effective in getting people to reveal socially undesirable information about themselves, thus providing a more valid measure of attitudes.

The White House Report Card

OFFICE: _____
Name of Rater: _____

STAFF EVALUATION

Please answer each of the following questions about this person.

Name: _____
Salary: _____
Position: _____ Duties: _____

Work Habits

1) On the average when does this person:

arrive at work _____
leave work _____

2) Pace of Work: _____
1 2 3 4 5 6
slow fast

3) Level of Effort: _____
1 2 3 4 5 6
below full
capacity capacity

4) Quality of Work _____
1 2 3 4 5 6
poor good

5) What is he/she best at? (rank 1-5)

____ Conceptualizing
____ Planning
____ Implementing
____ Attending to detail
____ Controlling quality

6) Does this person have the skills to do the job he/she was hired to do?

yes____
no____
?____

7) Would the slot filled by this person be better filled by someone else?

yes____
no____
?____

Personal Characteristics:

8) How confident is this person? (circle one)
1 2 3 4 5 6
self confident cocky
doubting

9) How confident are you of this person's judgment:

1 2 3 4 5 6
not confident very confident

10) How mature is this person?
1 2 3 4 5 6
immature mature

11) How flexible is this person?
1 2 3 4 5 6
rigid flexible

12) How stable is this person?
1 2 3 4 5 6
erratic steady

13) How frequently does this person come up with new ideas?
1 2 3 4 5 6
closed open

15) How bright is this person?
1 2 3 4 5 6
average very bright

16) What are this person's special talents?
1) _____
2) _____
3) _____

17) What is this person's range of information?
1 2 3 4 5 6
narrow broad

Interpersonal Relations:
18) How would you characterize this person's impact on other people? (for example, hostile, smooth, aggressive, charming, etc.)

1) _____
2) _____
3) _____

19) How well does this person get along with:
Superiors 1 2 3 4 5 6
Peers 1 2 3 4 5 6
Subordinates 1 2 3 4 5 6
Outsiders 1 2 3 4 5 6
not well very well

20) In a public setting, how comfortable would you be having this person represent:
you or your office 1 2 3 4 5 6
The President 1 2 3 4 5 6
uncomfortable comfortable

21) Rate this person's political skills.
1 2 3 4 5 6
naive savvy

Supervision and Direction
22) To what extent is this person focused on accomplishing the Administration's goals _____%
personal goals _____%

23) How capable is this person at working toward implementing a decision with which he/she may not agree?
1 2 3 4 5 6
reluctant eager

24) How well does this person take direction?
1 2 3 4 5 6
resists readily

25) How much supervision does this person need?
1 2 3 4 5 6
a lot little

26) How readily does this person offer to help out by doing that which is not a part of his/her "job"?
1 2 3 4 5 6
seldom often

Summary:
27) Can this person assume more responsibility?
yes____
no____
?____

28) List this person's 3 major strengths and 3 major weaknesses.
29) List this person's 3 major accomplishments.
30) List 3 things this person that have disappointed you.

This is a reproduction of a questionnaire distributed by White House Chief of Staff Hamilton Jordan during the administration of President Jimmy Carter. The questionnaire was to be used to grade top aides in the Carter administration. It consists of some open-ended questions and some rating scales from the semantic differential. Since the questionnaire is not to be completed anonymously, how honest do you think the raters were likely to be?

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Indirect Procedures

The bogus pipeline method improves the validity of a direct attitude measure when an investigator fears that, for some reason, people are unwilling to provide accurate information about their attitudes. Another approach is to employ an indirect attitude measure. With an indirect attitude measure, the subjects are unaware that attitudes are being measured, thus minimizing their concerns about giving an "appropriate" or a "desirable" response. In this section, we will discuss some disguised self-report techniques, some behavioral measures, and some physiological indicators of attitudes.

Disguised Self-reports

With a disguised self-report, people provide verbal reports about themselves, but they are unaware that the purpose of the self-report is to measure their attitudes. For example, if you want to measure a person's attitudes toward the church, you might show the person a picture of a minister standing at the pulpit and ask the person to make up a story about the picture. The idea of this *projective technique* (Proshansky, 1943) is that people will project their own personal feelings into their stories. To the extent that a group of judges can agree on the themes expressed in a person's story (pro- or antichurch), an inference about the person's attitude can be made.

A technique called the *information error test* (Hammond, 1948), involves giving people what appears to be an objective multiple-choice test. The test is unique, however, in that none of the answers are correct! To measure attitudes toward the church using this technique, the subject is presented with a series of questions like this:

What has happened to church attendance in the United States in the past ten years?

- a. It has decreased 15%.
- b. It has decreased 10%.
- c. It has stayed the same.
- d. It has increased 5%.

If church attendance has actually declined by five percent, two of the responses overestimate the decline and two of the responses underestimate the decline. The person is thus forced to select a position that is relatively favorable or relatively unfavorable to the church. This technique assumes that, over a series of items, the person's own attitude toward the church will consistently influence the direction of the bias (either pro- or antichurch).

Hendrick and Seyfried (1974) introduced a clever technique for obtaining a disguised measure of peoples' attitudes based on the well-documented finding that people generally like those who have attitudes similar to theirs and generally

dislike people whose attitudes are dissimilar (Byrne, 1969). To determine, then, if subjects are generally favorable or unfavorable toward the church, the investigator could show them some attitude scales that were presumably filled out by various other people. The subjects would be asked to indicate whether or not they would like the people whose attitudinal responses they saw. Presumably, if the subjects said that they would like another person who expressed antichurch attitudes and dislike one who expressed prochurch attitudes, the inference could be drawn that the subjects themselves had unfavorable attitudes toward the church.

Behavioral Indicators of Attitudes

A number of behavioral measures have been used to obtain an indication of attitude toward people, objects, and issues. For example, Wells and Petty (1980) secretly videotaped peoples' head movements as they listened to a proattitudinal or a counterattitudinal message. People listening to a message that supported their own positions engaged in more vertical and fewer horizontal head movements than people listening to a message that contradicted their own attitudes. Researchers interested in interpersonal attraction have used the following measures of attitude toward other people: the amount of eye contact (Argyle, 1967; Rubin, 1970), one's body position (Mehrabian, 1968), and the physical distance that two people stand from each other (Byrne, Ervin, & Lamberth, 1970). The more eye contact, the more people lean toward each other; and the closer they stand to one another, the greater the liking that has been reported.

Virtually any positive act toward a person might be viewed as indicating a positive attitude toward that person, and any negative act might be viewed as indicating a negative attitude. We presumably do not often do positive things for people that we dislike, nor do we often do negative things to people we like. Milgram, Mann, and Harter (1965) reasoned that people would be willing to mail a lost letter addressed to a group that they liked (e.g., UNICEF) but would be less willing to mail a lost letter to a group that they disliked (e.g., the Communist party). In a test of this *lost letter technique* for measuring attitudes, these researchers scattered a number of letters addressed to various positive and negative groups around several different cities. The people who found the letters mailed significantly more of them that were addressed to the positive groups than to the negative groups. Presumably, this technique could be used to predict the outcome of a political election in a city. Letters addressed to the various candidates would be "lost" in each target city and the return rates monitored. This technique is expensive, since a stamp is required for each "lost letter," but in some cases the technique may be cheaper than hiring interviewers to poll the electorate (although not as accurate). The technique may be particularly useful in assessing political attitudes in a country where people may be afraid to give their true opinions to interviewers (Milgram, 1977).

Webb, Campbell, Schwartz, and Sechrest (1966) have described a number of unobtrusive measures for assessing attitudes that might be useful in particular contexts. For example, to determine which paintings the visitors to a museum like without asking them to fill out a questionnaire, an investigator could monitor the amount of wear on the tiles underneath the various paintings (Melton, 1933, 1936). If people stand longer under paintings that they like, then the tiles would have to be replaced more often under the more popular paintings. Unfortunately, a number of factors other than popularity undoubtedly contribute to tile wear. For example, people probably drag their feet more at the end of the museum, making the paintings in this area appear to be more popular than they actually are.

Physiological Indicators of Attitudes

The indirect techniques that we have discussed so far all rely on various inferences about how attitudinal biases might influence certain things—the stories people tell about pictures, the answers people select to multiple-choice tests, or the behaviors they perform that *appear* relevant to the attitude object or issue. If the assumptions about how certain behaviors relate to the underlying attitude are incorrect, or if the behavior observed is not representative of the behaviors that the person typically engages in, the measure of attitude will contain error.

The ideal attitude measure would be one that avoids the major problems of the direct self-report techniques (e.g., that people are sometimes unwilling or unable to report their attitudes correctly) and the problems of the indirect techniques already discussed (e.g., that the assumptions on which the measures are based may be faulty or that unrepresentative behaviors may be observed). Some researchers have sought such a “perfect” measure in the human body’s natural physiological responses to attitudinal stimuli (see review by Cacioppo & Sandman, 1981). In this section we discuss three physiological measures that have been employed to assess attitudes.

One of the first measures used was the *galvanic skin reflex* (GSR). The GSR measures the electrical resistance of the skin, or how well the skin conducts an electric current that is passed between two electrodes that are usually placed on the surface of the hand. When the hand is sweaty, it conducts electricity better than when it is dry, and the GSR measures this change in the activity of the sweat gland. Because people perspire more when emotionally aroused, it was thought that the GSR could be used to assess a person’s emotional response to a stimulus. Early investigators reported that the GSR predicted such things as the intensity of racial prejudice (Westie & DeFleur, 1959) and the effectiveness of an advertisement for pancake flour (Ekstrand & Gilliland, 1948).

In a representative early study, Dysinger (1931; reported in McCurdy, 1950) monitored the GSR of subjects as they were presented with words that varied in their pleasantness. For example, if the following words were rated on a scale

of -3 (very unpleasant) to $+3$ (very pleasant), *love* would be a very pleasant word, *rape* would be a very unpleasant word, and *chair* would fall somewhere in between. Dysinger found that the closer the word was rated to either extreme, the greater the GSR that the word elicited. The GSR did not, however, predict whether the subjects’ responses to the words were positive or negative. Because the GSR correlates with the intensity of an emotion but not the direction, its use for assessing attitudes is rather limited. A more important drawback of the GSR measure, however, is that it also correlates with other features of stimuli. The more strange, the more novel, and the more unexpected a stimulus is, the greater the GSR that is elicited (Sokolov, 1963). Thus, until a study is conducted in which all of these features of the stimuli are controlled, it is not even clear that the GSR can provide a unique measure of the intensity of attitudes.

Hess (1965) reported that the *pupillary response* might be used to assess the direction of an attitude toward a stimulus. The pupil of the eye is capable of both expanding, as when the lighting becomes dim, and constricting, as when the lighting becomes bright. Hess suggested that pupillary expansion would accompany the repeated presentations of stimuli that the person liked, whereas pupillary constriction would accompany the repeated presentations of stimuli that the person disliked.

To test the validity of the pupillary response measure, Atwood and Howell (1971) monitored the pupillary responses of ten pedophile prisoners (convicted of child molestation) and ten control prisoners (convicted of nonsexual crimes) while they viewed nude or partially nude pictures of adult females and young girls. Table 1.1 presents the average change in the prisoners’ pupils when viewing the experimental pictures as opposed to blurred slides. Note that all but one of the pedophiles’ pupils dilated more when viewing the pictures of the children than the pictures of adult females; and all but one of the control prisoners’ pupils dilated more to the pictures of the adults than to the pictures of the children.

Although other demonstrations (e.g., Barlow, 1969) suggest that the pupillary response measures subjects’ attitudes, there are far more studies that fail to find support for the pupils’ response as an indicator of attitudes (see review by Woodmansee, 1970). There appear to be several problems with the pupillary measure. First, it is clear that the pupils respond to various features of a stimulus. Besides the obvious feature of the amount of light in a picture, the pupillary response also correlates with the interest or attention value of a stimulus and the amount of cognitive effort devoted to thinking about a stimulus (Kahneman, 1973; Libby, Lacey, & Lacey, 1973). Second, some studies have shown that the pupils dilate to both pleasant and unpleasant stimuli rather than distinguishing these two states, and there is presently no evidence that the pupils are successful in predicting attitudes for nonvisual stimuli (Goldwater, 1972). The initial promise, then, of the pupillary measure has yet to be documented.

Table 1.1

Mean Pupil Changes of Pedophilic and Control Prisoners to Pictures of Adult Females and Young Girls

	Picture Type	
	Adult Females	Young Girls
Pedophilic Prisoners		
1	+15	+38
2	-2	+22
3	-7	+17
4	-6	+6
5	-5	+31
6	-11	+24
7	-2	-10
8	-10	+25
9	-4	+28
10	+6	+29
Mean	-2.6	+21.0
Control Prisoners		
1	+28	+25
2	+18	+5
3	+29	-8
4	+21	+14
5	+25	+5
6	+21	-7
7	+22	-6
8	+35	+3
9	-26	0
10	+16	-8
Mean	+18.9	+2.3
(* $p < .01$)	$t = 4.51^*$	$t = 3.43^*$

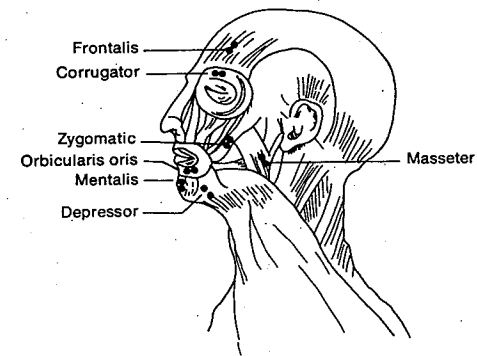
Data from Atwood & Howell (1971). Copyright by the Psychonomic Society. Used with permission.

NOTE: The data, presented in millimeters, do not refer to actual changes in the size of the pupil but instead to changes on a 24-inch television screen on which the pupil was projected.

The final physiological procedure we address is *facial EMG*, a measure of the contractions of the major facial muscles (see fig. 1.1). Over one hundred years ago, Charles Darwin (1872) argued that different facial expressions were biologically tied to different emotions. In fact, Darwin used the term *attitude* to refer to a facial expression of emotion. More recently, Ekman (1971) concluded that at least six distinct emotions could be linked to unique facial expressions across a wide variety of cultures: happiness, sadness, anger, fear, surprise, and disgust.

Figure 1.1

Major facial muscles and recording sites for electrode placement.



NOTE: Pleasant in contrast to unpleasant affective reactions are associated with relatively increased EMG activity over depressor and zygomatic muscles, but relatively diminished output over the corrugator and frontalis muscles. (From Cacioppo & Petty, 1981b).

In a series of studies, Schwartz and his colleagues (e.g., Schwartz, Fair, Salt, Mandel, & Klerman, 1976) demonstrated the usefulness of the facial EMG procedure for assessing positive and negative affective states. Specifically, they have shown that people who are asked to imagine positive events or "think happy thoughts" generally show more electrical activity in the depressor and zygomatic muscles, but less electrical activity in the corrugator and frontalis muscles, than subjects who are asked to "think sad thoughts."

Cacioppo and Petty (1979a) reasoned that measures of facial EMG might distinguish positive from negative reactions to a persuasive communication. To test this hypothesis, they asked college students to listen to either an involving proattitudinal message (e.g., advocating more lenient visitation hours in dormitory rooms) or an involving counterattitudinal message (e.g., advocating more strict visitation hours in dormitory rooms) while their facial muscle activity was monitored. Subjects hearing a proattitudinal message displayed the facial muscle pattern of happiness, whereas those hearing a counterattitudinal message displayed the facial muscle pattern of sadness. These subtle facial muscle patterns, as in the Schwartz research, were not detectable by observers—the patterns were only distinguishable in the highly sensitive electromyographic recordings. It appears that the facial EMG measure may be sensitive to gross differences in the direction of one's feelings, but it is not yet clear whether the measure will be useful in determining the intensity of feelings as well.

Direct versus Indirect Assessment of Attitudes

We have reviewed a potpourri of procedures developed by psychologists to assess the degree to which people feel positively or negatively about other people, objects, and issues. Without question, the great majority of attitude change studies reviewed in the remaining chapters of this book (and the vast majority of persuasion studies conducted) rely almost exclusively on direct self-report measures of attitude. There is a good reason for this. When reliability and validity checks are made on the various direct and indirect procedures, the indirect procedures are often found to be inferior to the direct attitude scales (Lemon, 1973). Researchers therefore prefer the direct techniques. Another advantage of the direct techniques is their greater *precision* or *sensitivity*—that is, they are better than the indirect techniques at pinpointing relatively small differences in attitudes that may exist between subjects. In contrast, the indirect techniques have been most useful in detecting relatively large differences in affect between people. The primary disadvantages of the direct techniques—that people may be unwilling to give their attitudes or may be deliberately misleading about their attitudes—have not really proven problematic in research. This is probably because most attitude research does not deal with highly sensitive issues, and in many studies the subjects' attitudinal responses are kept anonymous. If the issues are relatively uninvolved and anonymity is assured, there is little reason to misrepresent one's attitude. Nevertheless, social psychologists have developed a wide variety of indirect assessment procedures that are highly useful in those few (but important) situations in which it is reasonable to question the validity of a direct attitude measure.

Do Attitudes Predict Behaviors?

Before we discuss how psychologists study attitude change experimentally, there is one more important question to be addressed: do attitudes predict behaviors? Recall that psychologists have focused on the concept of attitude because of the assumed relationship between attitudes and behaviors. Defense attorneys want you to like their clients so that you will vote to acquit them; manufacturers want you to like their products so that you will buy them; and other people want us to like them so that we will do favors for them or protect them or marry them.

Soon after the first attitude scales were developed, questions arose about the usefulness of attitudes in predicting behaviors. In perhaps the most widely cited early study on the attitude-behavior "problem" (as it came to be known), LaPiere (1934) investigated whether or not he could predict peoples' prejudiced behaviors from their self-reports of prejudice. In the early 1930s, LaPiere, traveling with a Chinese couple, stopped at sixty-six hotels and 184 restaurants across the

United States. The Chinese couple was refused service at only one of the establishments. Six months later, LaPiere wrote to all of the places at which they stopped, asking them if they would give service to Chinese guests. Of the 128 places that responded, ninety-two percent stated that they *would not* serve Chinese guests. On the surface, at least, there appears to be an extreme discrepancy between the verbal reports and the actual behavior toward Chinese. On closer examination, however, it is clear that there are several problems with this study. One major problem is that there is no way to be certain that the people who admitted the Chinese couple to the hotels and restaurants were the same people who completed the questionnaire when it arrived six months later! In fact, it is highly unlikely that the two measures were obtained on the same people.

If this were the only study failing to find a relationship between verbal reports and behaviors, the attitude-behavior "problem" would never have arisen. However, there were numerous other more carefully conducted studies that also failed to find significant relationships. Corey (1937), for instance, measured his students' attitudes toward cheating and then attempted to predict cheating on the tests that he gave during the semester. He was able to determine whether or not the students cheated by grading their true-false tests before giving them back, but allowing the students to believe that they were going to grade the tests themselves (students beware!). The difference between the score the students assigned to themselves and their actual scores, as determined by Corey's initial grading, served as the index of cheating. Corey found that the correlation between the students' attitudes toward cheating and the extent to which they actually cheated on five tests was close to zero. Students with positive attitudes toward cheating were no more or less likely to cheat than students with negative attitudes toward cheating. Moreover, in this study, there was no problem in ensuring that the same people who completed the attitude measures also completed the behavioral ones.

What Kinds of Attitudes Predict Behaviors?

These and other studies that seem to show an inability of attitudes to predict behaviors led one relatively recent reviewer to conclude that "taken as a whole, these studies suggest that it is considerably more likely that attitudes will be unrelated or only slightly related to overt behaviors than that attitudes will be closely related to actions" (Wicker, 1969, p. 65), and that "it may be desirable to abandon the attitude concept" (Wicker, 1971, p. 29). Wicker was not alone in his disillusionment with the attitude concept, and by the mid-1970s the study of attitudes by social psychologists declined dramatically (Lambert, 1980). The fact that you are now reading a current book on attitudes and persuasion suggests that this pessimism did not last very long. In the past decade, enough careful research has been conducted by a number of scholars, most notably Fishbein and

Ajzen (1974, 1975; Ajzen & Fishbein, 1977, 1980), to conclude confidently that attitudes *are* related to behaviors. Furthermore, the recent research outlines the conditions under which the relationship is likely to be strong rather than weak.

Attitudes and Behaviors That Are Measured Appropriately

Ajzen and Fishbein (1977) noted that a behavior can be viewed as consisting of four elements. The first element is the *action* performed: is the behavior one of cooking, smoking, or driving? The second element is the *target* at which the action is directed: is the action directed at a cake, a cigarette, or a bus? The third element is the *context* in which the action is performed: is the action performed in the kitchen, in front of the minister, or on the interstate highway? Finally, every behavior has a *time* component: is the action performed on New Year's Eve, in the morning, or at noon? By putting these components together, the complete behavior is specified: the person is cooking a cake in the kitchen in the morning, or the person is smoking a cigarette on the interstate highway on New Year's Eve.

In order to predict one of these specific behaviors, Ajzen and Fishbein argue that the attitude measure employed should correspond to the behavior on the action, target, context, and time categories. If there is no correspondence, a significant relationship between attitudes and behaviors will usually not be obtained. Given this analysis, it is understandable why Corey was unable to predict cheating behavior from attitudes toward cheating. The problem was that he employed a general measure of attitude toward cheating (assessing attitudes toward the action component) but tried to predict a very specific behavior (whether the students would cheat on a particular kind of test, in a particular course).

A study by Davidson and Jaccard (1979) illustrates the enhanced prediction that can be obtained by measuring attitudes and behaviors at corresponding levels of specificity. In this study, they attempted to predict whether women would actually use birth control pills during a particular two-year period. Table 1.2 shows how well different attitude measures predicted the women's use of the pills. The attitude toward birth control pills (target component only) does not predict behavior very well. After all, the women may think that the pills themselves are wonderful (they are small, round, colorful, and should be available to women who want them), but they may not have positive feelings about *using* the pills. By adding this action component to the attitude measure, prediction is increased. Finally, by adding the time component, prediction is increased even further. This is because a woman might have favorable feelings about using birth control pills generally but does not have favorable feelings about using them in the next two years because she wants to have a baby then.

Table 1.2

Correlations of Attitude Measures Varying in Specificity with Behavior (Use of Birth Control Pills during a Two-year Period)

Attitude Measure	Correlation with Behavior
1. Attitude toward birth control	.083
2. Attitude toward birth control pills	.323
3. Attitude toward using birth control pills	.525
4. Attitude toward using birth control pills during the next 2 years	.572

Data from Davidson & Jaccard (1979). Copyright by the American Psychological Association. Used with permission.

NOTE: Based on a sample of 244 women.

In the example on birth control pills, the investigators were able to predict a specific behavior by employing a specific attitude measure. According to Ajzen and Fishbein's analysis, however, a general attitude measure should be able to predict a general behavioral criterion. In other words, a general attitude measure on cheating might not be able to predict one specific instance of cheating, but it should predict general cheating behavior across a wide enough variety of targets (e.g., cheating on tests, income taxes, when playing monopoly), contexts, and times. In order to test this notion, Weigel and Newman (1976) administered a general attitude measure (Likert scale) about the environment to forty-four residents of a New England town that were randomly selected from a telephone directory. Three months after giving the attitude measure, the first behavioral measure was administered. Someone came to the homes of the subjects and asked them if they would be willing to sign any one of three petitions relevant to environmental concerns (e.g., opposing oil drilling off the New England coast). On the behavioral measure, subjects were given one point for each petition they signed and one additional point if they agreed to keep some petitions and actually mailed them back with at least one new signature. Six weeks after the petition-signing opportunity, the subjects were contacted by a different person and asked if they would agree to join a roadside litter cleanup. They were given a choice of three different times during which they could participate. Subjects were given one point for actually showing up for the cleanup and were given an additional point if they brought along another person as requested. Eight weeks later, the subjects were again contacted by a different person and were told about a recycling program for bottles, cans, and newspapers that was to take place in their community over an eight-week period. The subjects were awarded one point for

Table 1.3

Predicting Specific and General Behavioral Criteria from a General Attitude Measure

Correlations between Subjects' Environmental Attitudes and Behavioral Criteria

Single Behaviors	r^a	Categories of Behavior	r^b	Behavioral Index	r^b
Offshore oil	.41**	Petitioning behavior scale (0-4)	.50**	Comprehensive behavioral index	.62***
Nuclear power	.36*				
Auto exhaust	.39**				
Circulate petitions	.27				
Individual participation	.34*	Litter pick-up scale (0-2)	.36*		
Recruit friend	.22				
Week 1	.34*	Recycling behavior scale (0-8)	.39**		
Week 2	.57***				
Week 3	.34*				
Week 4	.33*				
Week 5	.12				
Week 6	.20				
Week 7	.20				
Week 8	.34*				

Data from Weigel & Newman (1976). Copyright by the American Psychological Association. Used with permission.

NOTE: $N = 44$.

^a Point-biserial correlations are reported in this column.

^b Pearson product-moment correlations are reported in this column.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

each week that they brought some materials in to the recycling station. Table 1.3 shows how well the general attitude measure predicted the subjects' various behaviors. Notice that although the general attitude measure did not predict any one specific behavior very well, it predicted the subjects' general pattern of behaviors toward the environment quite well.

In their extensive review of attitude-behavior studies, Ajzen and Fishbein (1977) found that, in those studies in which the attitude and behavior measures did not correspond, the correlation between attitudes and behaviors was usually not significant. In the twenty-six studies in which appropriate measures were obtained, all twenty-six showed significant attitude-behavior correlations.

Besides ensuring correspondence between the measures of attitude and behavior, two other measurement issues have been shown to affect the ability to predict behaviors from attitudes. The first is the amount of time that elapses between the attitude and the behavioral measurement. The more time that elapses between the two measures, the lower the correlation that is usually observed between attitudes and behaviors (Davidson & Jaccard, 1979; Schwartz, 1978). This is because the more time between the two measures, the more likely it is that a person's attitude will change in the interval. If attitude change occurs, the behavior prediction will be based on the wrong attitude.

The second measurement factor that has been shown to make a difference is the extent to which the subjects' attention is focused on their "inner states" when either the attitude or the behavior measure is taken. For example, when subjects are asked to complete either the attitude or the behavior measure while facing a mirror, the attitude-behavior correlations are enhanced over nonmirror conditions (Gibbons, 1978; Pryor, Gibbons, Wicklund, Fazio, & Hood, 1977). The presence of the mirror presumably makes subjects more "self-aware," and this increases attitude-behavior consistency. In other words, when subjects' thoughts are focused on their true internal feelings (Scheier & Carver, 1980), they are more likely to act in a manner consistent with those feelings than when their thoughts are not internally focused (Carver & Scheier, 1978; Snyder & Swann, 1976).

Attitudes That Are Based on Direct Experience

Two people may have identical attitudes toward some person, object, or issue, but these attitudes may have been formed in different ways. In fact, the remaining chapters in this book discuss the many different ways in which an attitude may be formed. Fazio and Zanna (1981), focusing on attitudes formed as a result of direct experience with the attitude object, have proposed that these attitudes should predict behaviors better than attitudes that are not based on direct experience. In a test of this hypothesis, Regan and Fazio (1977) tried to predict the proportion of time that people would spend playing with different types of puzzles from their attitudes toward the puzzles. In this experiment, they gave subjects in the *direct-experience* condition an opportunity to play with some sample puzzles before their attitudes were measured. For subjects in the *indirect-experience* condition, the experimenters only described the various types of puzzles to them before their attitudes were measured. Subjects in both conditions expressed the same attitudes about the puzzles on the attitude scales, but the method by which their attitudes were formed was different. Later, all subjects were given an opportunity to play with the different puzzles, and the experimenters recorded the order in which the different types of puzzles were attempted and the proportion of available puzzles of each type with which the subjects played. The average correlation between the attitude and the behavior measures for direct experience subjects was .53, whereas for indirect experience subjects, the correlation was only .21.

In a subsequent study, Fazio and Zanna (1978) tried to predict students' willingness to participate in psychological research projects on the basis of their attitudes toward psychology experiments. They divided students into three groups based on how many experiments they had already participated in. Those with the most experience with psychology experiments showed the highest attitude-behavior correlation ($r = .42$), those with a moderate amount of experience showed the next highest correlation ($r = .36$), and those with the least direct experience showed no correlation ($r = -.03$).

Fazio and Zanna (1981) suggest that attitudes based on direct experience predict behaviors better than attitudes not formed in this manner, because direct experience makes more information about the attitude object available to the person. The more information a person has about the attitude object, or the more an attitude is based on salient beliefs about the object, the more confident the person might be in acting on that information (see also Norman, 1975). Fazio and Zanna also suggest that attitudes based on direct experience are more memorable than other attitudes: the more accessible an attitude is in memory, the more likely it is that it can influence the person.

What Other Variables Enhance Behavioral Prediction?

Although it is now clear that attitudes can be used to predict behavior with considerable success under the appropriate conditions, some investigators argue that by considering some variables in addition to attitudes, prediction of behavior can be substantially improved. Snyder (1979), for example, has argued that people low in the personality trait of *self-monitoring* typically show greater attitude-behavior consistency than people who are high in the trait. Low self-monitors tend to guide their behavioral choices on the basis of salient information about their internal states (e.g., they eat when they are hungry), whereas high self-monitors tend to guide their behavior more on the basis of situational information (e.g., they eat when it is dinnertime). Attitudes, which are internal predispositions, will therefore generally be a better predictors of behaviors for low than high self-monitors (Snyder & Monson, 1975; Snyder & Tanke, 1976; Zanna, Olson, & Fazio, 1980).

Fishbein and Ajzen (1975) have argued that *norms*, or what other people think about the behavior, are also important considerations for predicting an individual's behavior. They have formulated and tested a model of behavioral prediction based on attitudes and norms that they call "the theory of reasoned action." This theory, discussed in depth in chapter 7, has generated a considerable amount of research.

In addition to attitudes, norms, and personality, Triandis (1980) argues that, of the several other factors to consider in attempting to predict behavior, the most important is *habit*. Habits are behaviors that have become automatic in certain situations. These behaviors occur without much, if any, thought. Triandis

suggests that the first few times a person performs a particular behavior, cognitive factors such as attitudes and norms play a significant role in determining the nature of the behavior; but as the person engages more and more in the behavior, there is a shift away from these cognitive factors, and habit plays a more important role (see also Triandis, 1977). In fact, some social psychologists have characterized much of a person's day-to-day behavior as "mindless" (Langer, Blank, & Chanowitz, 1978). For these highly routine, relatively unimportant daily behaviors, attitudes will likely be poor predictors. Furthermore, even though the person may have a great deal of direct experience with a particular attitude object, if the person engages in the behavior so often that it becomes automatic, attitudes may change, but the behavior may persist due to habit.

Nevertheless, even behaviors that have become almost completely automatic, in that they occur without much thought, may again come under the control of attitudes if the person once more becomes motivated to think about the behavior. For example, Smith (1977) found that, on a typical work day, the attitudes of the employees of a large corporation toward their jobs could not be used to predict who would show up for work. On the day after an unusually severe blizzard, however, attitudes toward work did predict employee attendance. On a typical work or school day, for example, most people go without much thought. When a blizzard leaves ten-foot high snowdrifts outside, however, people have to make a conscious decision about whether or not they want to leave the comfort of their homes. On such "thoughtful" days, attitudes will have an important influence on their behaviors—the more they like their jobs, the more they are likely to brave the weather and attempt to get to work.

How Is Attitude Change Studied Experimentally?

We now know that attitudes can serve important functions for people, that they can be measured with high reliability and validity, and that they can be useful in predicting behaviors. We are now ready to focus on persuasion, or the process of changing attitudes. First of all, it is important to note that virtually all of the research on persuasion conducted by social psychologists is guided by some theory. A *theory of attitude change* specifies the variables that are important in producing persuasion, and it further specifies the processes by which these variables induce attitude change.

Despite many differences in variables and processes that persuasion theorists claim are responsible for inducing attitude changes, investigators from all theoretical approaches have relied on the experimental method for testing their theories. So before we begin our descriptions of the major theoretical approaches to persuasion, it is necessary to discuss the attitude change experiment.

Conceptual and Operational Levels of Research

In a simple research effort, diagrammed in figure 1.2, the *conceptual level* represents what the theory of attitude change states should occur and why. The theory in figure 1.2 says that an expert source should increase attitude change by increasing the number of message arguments that a person will learn from the advocacy. The *operational level* represents how the researcher translates the conceptual (theoretical) variables into variables that can actually be manipulated and measured.

Two types of experimental designs are most often used to study attitude change (Campbell & Stanley, 1963). The first design—the *pretest-posttest control group design*—is diagrammed below.

Experimental Group	R	O ₁	X	O ₂
Control Group	R	O ₃		O ₄

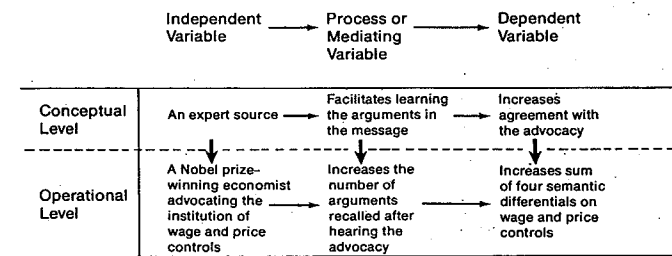
In this design, subjects are randomly assigned (R) to one of the two groups, so that any given subject has an equal chance of being assigned to either the experimental or the control group. The pretest attitudes of the experimental group (O₁) and the control group (O₃) are measured using any of the attitude measurement techniques described earlier in this chapter. Some treatment or manipulation (called the independent variable X) is then presented to the experimental group only, followed by a posttest measurement of the attitudes of both the experimental (O₂) and control (O₄) groups. For example, to test the hypothesis that an expert source increases attitude change, two groups might hear a speech advocating that wage and price controls be instituted. For one group, the source of the speech would be a Nobel prize-winning economist (experimental group); for the other group, the source would remain unidentified (control group). Attitudes about wage and price controls (on semantic differential scales) would be taken both before and after the speech for both groups. If the experimental group shows more change in the direction of favoring wage and price controls as a result of hearing the speech (O₂ - O₁) than does the control group (O₄ - O₃), then the hypothesis is supported.

An alternative experimental design for testing the same hypothesis is the *posttest-only control group design*. In this design (see diagram below), subjects are again randomly assigned to experimental and control groups, but only one measure of attitudes is taken—the posttest. Because of random assignment to conditions, subjects in the experimental and control groups can be assumed to have

Experimental Group	R	X	O ₁
Control Group	R		O ₂

Figure 1.2

The conceptual and operational levels of a simple research effort on source expertise.



the same *initial* attitudes. Attitude change, then, can be defined as the difference between the posttest attitudes of the experimental group and control group. Since the subjects are randomly assigned to the two groups, and the two groups are treated identically except for the independent variable (X), nothing should contribute to the differences between the attitude measures (O₁ and O₂) except the effects of the manipulation. The posttest-only design is sometimes preferred over the pretest-posttest design because (1) completing a pretest may commit subjects to an initial attitude, and when they are confronted with the same attitude scales at the time of the posttest, they may simply report their pretest attitudes again; and (2) completing an initial attitude measure may sensitize subjects that attitude change is being studied, and they may not show change to avoid the appearance of indecisiveness.⁴ Of course, the two basic experimental designs that we have discussed are often extended to include more than one experimental and control group.

The Validity of the Attitude Change Experiment

Cook and Campbell (1976) have argued that there are four kinds of validity of concern to an investigator when evaluating the outcome of any experiment. As an example of these four kinds of validity, let's examine our hypothetical experiment on source expertise. Recall that we found that the subjects in the experimental group, who were exposed to the Nobel prize-winning source, showed more agreement with the institution of wage and price controls than did subjects in the control group, for whom the source remained anonymous. The question of *statistical conclusion validity* asks whether the difference observed between the experimental and control groups may have been due to a chance fluctuation,

or whether the observed difference is reliable (likely to be obtained again if the experiment is repeated). A statistical test allows determination of the likelihood that the observed difference represents a chance occurrence (Kirk, 1968; Winer, 1971). If the probability that the difference is due to chance is 5% or less ($p < .05$), as revealed by the statistical test, then the result is considered to be statistically *significant* (or reliable).

A second concern in evaluating an experiment is *internal validity*. If the experiment passes the conclusion validity test, something other than chance is responsible for the observed difference, but the statistical test does not assure that the manipulation (source expertise) is responsible for the observed difference. It is assured that the attitude change effect is not due to some variable other than the manipulation if there is an appropriate control group and if subjects have been randomly assigned to conditions. Since an appropriate control group is treated identically to the experimental group except for the manipulation, if the two groups are found to differ, then this difference must either be attributed to the manipulation or to the fact that the two groups have different kinds of subjects. By randomly assigning subjects to conditions, the latter possibility can be eliminated and it may be concluded that the manipulation was necessary to produce the observed effect.

A third kind of validity, *external validity*, is concerned with how well the observed effect generalizes to other possible subject populations, other locations, and different experimental materials. When only one experiment is conducted, the investigator can never be sure that the observed effect has any general applicability. Perhaps expert sources produce more attitude change only for economic topics but not for others. The only way to check on the external validity of a finding is to conceptually *replicate* (repeat) the experiment. In other words, in the second and third experiments, the same conceptual hypotheses will be tested, but the specific procedures will be different. An experimenter will use different subjects, in different locations, with different experimental materials. To the extent that the findings can be replicated with a wide variety of different procedures, the findings have external validity.

Finally, in evaluating an experiment, the investigator must be concerned with *construct validity*. This is the question of whether or not what was meant to be manipulated was actually manipulated and what was meant to be measured was actually measured. We have already discussed some of the problems encountered in assessing the construct validity of attitude measures (e.g., sometimes people may attempt to mislead us as to their true attitudes). It is equally important to be sure that the manipulation is valid. In our example, the expert source is a Nobel prize winner. Is the increased persuasion observed in the experimental group due to the source's expertise, or is it due to some irrelevant aspect of the manipulation? Maybe subjects were persuaded because our source had won a prize, and any source that had won a prize—whether it was an Academy Award, the Miss America Pageant, or the South County Hog-Calling Championship—would have been liked more by subjects, and this liking would have produced

more agreement. In our example, “winning a prize” was *confounded* (covaried) with the expertise of the source. A certain degree of confounding is probably inevitable in most research, because experimental treatments are complex and are unlikely to manipulate only one thing. Researchers typically deal with this problem in one or both of the following ways. First, a *manipulation check* measure can be taken, which is designed to see if subjects in the experimental group felt that the source had greater expertise on the issue than did the subjects in the control group. If this occurred, and furthermore if experimental subjects did not report *liking* the source more than did the control subjects, confidence in the construct validity of the manipulation is increased. A second way to deal with this problem is to employ *multiple operations* of the treatment. Ideally, the experiment should use several different manipulations of source expertise (expert sources who had won prizes, expert sources who hadn't, male expert sources, female expert sources). If all of these expert sources have the same effect, then one can more confidently attribute their effect to that which they have in common, namely, expertise.

In addition to specific confounds that may be present in any one study, social psychologists have identified three general biasing factors that may be confounded with an experimental manipulation:

1. *Demand characteristics* (Orne, 1962). This occurs when the experimental treatment gives the subject a hint about the “correct” response or the response that the experimenter would like the subject to make.
2. *Evaluation apprehension* (Rosenberg, 1969). This occurs when the experimental treatment makes the subjects concerned about being evaluated by the experimenter. This makes subjects more likely to engage in a socially desirable response, a response that makes them look good (but not necessarily a response that would confirm the experimenter's hypothesis).
3. *Experimenter bias* (Rosenthal, 1966). This occurs when the experimenter's behavior, rather than the experimental manipulation, influences the subjects' responses. For example, if the experimenter were to nod his head in agreement when subjects listened to the expert source but not when they listened to the anonymous source, this could produce the observed difference between conditions.

Because these biasing factors can creep into the experimental situation quite unintentionally, the experimenter must be aware of them in conducting research. In most persuasion research, these biasing factors are minimized by the use of one or more of the following procedures:

- a. giving subjects a *cover story*—a false rationale that presumably explains to subjects why they are participating in the study;
- b. removing the attitude measure from the experimental setting;
- c. testing nonobvious hypotheses that are unlikely to be guessed by subjects;
- d. minimizing the status difference between the experimenter and the subjects;

- c. automating experimental procedures and keeping the experimenters blind to the experimental condition that subjects are in. (See Carlsmith, Ellsworth, & Aronson, 1976; Crano & Brewer, 1973; Petty & Brock, 1981; and Rosenthal & Rosnow, 1969, for more details on the experimental method.)

Evaluating a Theory

If the experiment passes all four of the validity tests, you can conclude that source expertise increases persuasion. You may not conclude, however, that your theory of *why* source expertise increases persuasion is correct. The experiment has provided evidence for an empirical statement of the nature "X produces Y." The process by which this occurs has not been demonstrated. If you refer to the initial conceptual diagram for the example on source expertise (fig. 1.2), you will note that the theory states that source expertise enhances persuasion *by facilitating the learning of the message arguments*. This suggests that, in addition to measuring attitude change, the investigator should also obtain some measure of the number of arguments that subjects in the experimental and control groups have learned. If experimental subjects show more attitude change than control subjects and also show more learning of the message arguments, support is obtained for the investigator's theory of why source expertise works.

On the other hand, just because a researcher measures the hypothesized *mediating or process variable* (message learning in this case) and finds the expected result, this does not *prove* that the theory is correct. It might be that an expert source affects both learning and persuasion but that message learning is not what produces the persuasion. For example, an alternative theory might say that the reason an expert source sometimes produces more attitude change is that people do less thinking about messages from highly credible sources. So, if the audience would normally be counterarguing (thinking up arguments against) the position advocated, an expert source would inhibit them from doing this, and more persuasion would result than if no source were specified. Furthermore, if an investigator wanted to provide support for this hypothesis, the number of counterarguments that experimental and control subjects think of could be measured. If experimental subjects generate fewer counterarguments than control subjects, evidence for this alternative theory is obtained.

It is actually quite common for different theorists who are trying to explain the same effect to obtain data that appears to support two or more different theories. When this occurs, it is desirable to perform a *crucial experiment* (Stinchcombe, 1968)—one which attempts to set up a situation in which two plausible competing theories make different predictions about how the data should come out. For example, a crucial experiment to allow a choice between the message learning and thought inhibition explanations for the effects of source

expertise might go as follows. Instead of using a message for which subjects would normally be generating many negative thoughts, a message would be used for which subjects would normally be generating many positive thoughts. According to the message-learning theory, switching the messages should make no difference. Learning should still be greater for the expert than for the anonymous source, and the expert should produce more persuasion than the anonymous source. On the other hand, according to the thought inhibition explanation, if subjects do less thinking when a message is presented by an expert, they should generate fewer thoughts than they normally do. If they normally would have generated many favorable thoughts to the message, and the expert source inhibits these favorable thoughts, the expert source might actually produce less persuasion than an anonymous source. Since the two theories make different predictions in this situation, the outcome of this simple experiment would allow a choice between them.

The Approaches to Persuasion

We have grouped the various theories of attitude change that have developed over the last forty years into seven major approaches, and these are discussed in chapters 2 through 8. Each of the approaches focuses on a different basic process to explain how and why peoples' attitudes change. The approaches are presented roughly in the order in which they captured the imagination of the discipline. All of the approaches, however, continue to retain their adherents, and all of the approaches continue to generate a great deal of research.

Our discussion of the approaches to persuasion begins in chapter 2 with theories that emphasize some rudimentary learning principles like conditioning and modeling. These approaches focus on the direct administration of rewards and punishments to the target of influence or on the effects of the target observing others being rewarded or punished for expressing certain attitudes. In chapter 3, we discuss the message-learning approach developed by Hovland and his colleagues at Yale. These researchers examined how different variables affected a person's attention to, comprehension of, yielding to, and retention of the arguments in a persuasive message. Chapter 4 presents perceptual-judgmental theories of persuasion, which focus on how a person perceives the message and how attitude judgments are made in the context of a person's past experiences. These past experiences can lead a person to distort the position of a persuasive message. Next, in chapter 5, we discuss different human motives as they relate to attitude change; we will see that certain motives, like the desire to maintain consistency between beliefs and between attitudes and behaviors, have implications for the manner in which an attitude is changed. In chapter 6 we begin our discussion of the "information processing" approaches to persuasion. The theories in this chapter examine how the inferences that a person makes about a communicator's behavior (why is he saying that?) or the person's own behavior (why am I doing this?) can have implications for a person's attitudes. The theories in

chapter 7 present some precise mathematical models of how the information that a person receives in a persuasive message is evaluated and integrated to form an overall attitude about a person, object, or issue. The theories in chapter 8 emphasize the information that people generate themselves, either in response to a persuasive message or in the absence of a persuasive message.

These seven different approaches to persuasion emphasize different variables and different processes, but all of them have something to contribute to a complete understanding of how and why people's attitudes change. In the last chapter in this book, we note that, although the various theoretical approaches to persuasion differ in many ways, they really seem to indicate that there are only two fundamentally different "routes" to changing a person's attitudes. One route, which we call the *central route*, emphasizes the information that a person has about the person, object, or issue under consideration; and the other route, which we call the *peripheral route*, emphasizes just about anything else (e.g., information about the communicator or about the immediate consequences of adopting a certain attitude). As we will see later, the route responsible for persuasion appears to be an important determinant of how enduring the attitude change will be. Changes induced via the central route tend to be more permanent than changes induced via the peripheral route. We will postpone discussion of these two routes until the final chapter, but as you proceed through the different theories presented in chapters 2 through 8, you might consider whether the theory appears to emphasize a central or a peripheral route to persuasion.

Retrospective

In this chapter we have introduced the study of attitudes and persuasion. We made an important distinction between education (conveying objective facts or teaching how to think) and propaganda (making opinion appear as fact or providing a biased sample of fact to further one's own ends); it was noted that most persuasion attempts qualified as propaganda. We also distinguished between attitudes (how we feel about something), beliefs (what we know about something), and behaviors (how we act toward something); it was noted that persuasion attempts could be aimed at each of these targets. We argued that attitudes served a number of important functions for people and that attitudes could be measured both with direct self-reports and with more indirect, unobtrusive procedures. The last half of the chapter documented the conditions under which attitudes allowed prediction of behaviors and also discussed how an attitude change experiment should be conducted. With these preliminary questions behind us, we turn in the remaining chapters to the different theoretical approaches that have developed for understanding the basis of attitudes and persuasion.

Notes

¹Verbal statements concerning one's future behavior (e.g., "The next pie I see, I will throw in Chuck's face") are called *behavioral intentions*, and they can be distinguished from the actual overt behaviors that a person performs (Fishbein & Ajzen, 1975, 1981). Although we will discuss some general factors that affect the relationship between attitudes and behaviors in this chapter, a detailed discussion of the relationships among attitudes, beliefs, intentions, and behaviors is postponed until chapter 7.

²When an attitude scale is called *reliable*, this means that the scale measures something consistently. Thus, the score obtained on one half of the scale should correlate highly with the other half of the scale (split-half reliability), and if there has been no real attitude change, a person should receive the same score on the scale on repeated testings (test-retest reliability).

³One important implication of using an attitude scale with low reliability, however, is that it will be more difficult to detect a statistically significant difference between two groups whose true attitudes are different.

⁴These problems can be overcome by separating the pretest from the posttest by a long interval or by embedding the crucial attitude measure in a series of other measures; but the longer the delay between pretest and posttest, the more likely that the subjects' attitudes will change from the pretest measure (thus invalidating it); and the longer the list of irrelevant attitude items in which the key item is embedded, the more likely extraneous factors (e.g., fatigue) are to influence the measure.